



## LEWIS AND CLARK COLLEGE

Department of Mathematical Sciences

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### PUZZLE OF THE WEEK (4/13/2016 - 4/19/2016)

The series

$$\sum_{n=0}^{\infty} \frac{2^n}{1+x^{2^n}} = \frac{1}{1+x} + \frac{2}{1+x^2} + \frac{4}{1+x^4} + \frac{8}{1+x^8} + \dots$$

converges for  $|x| > 1$ . Find, with proof, the expression for the sum of the series.

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- The only correct solution of the Puzzle of the Week #11 was submitted by Toby Aldape. Congratulations!
- One possible solution of the Puzzle #11 is posted online. (Look for the Puzzle of the Week announcements on the departmental web-page.)
- Solvers should include their full name and some kind of a contact information. Solutions should be submitted to **Iva Stavrov** in BoDine 305; email submissions are encouraged (istavrov at lclark). Solutions should be received by the end of the day on **Tuesday, April 19th 2016**.